

Part VI: Project Description

Please respond to each of the following questions. Provide enough information for reviewers to adequately understand how you plan to implement your team's participation in *FIRST* Robotics Competition. The review panel will use your answers to these questions to determine how likely it is that your team will be successful. Please note that formatting will *not* be preserved during transmission back to NASA. Therefore, please plan on your responses appearing only as plain text. Please be advised all questions should be answered in 10,000 characters or less.

1. Why are you considering entering a team in the 2012 *FIRST* Robotics Competition? What will define success for your team?

Team 1533 wants to participate in the 2012 FIRST Robotics Competition because it is a fun, exciting program that immerses us in an up close and personal complete engineering educational experience that involves our local community and the much larger FIRST community. At Team 1533 we feel strongly that building leaders of the future here today requires a cooperative interplay of new talent and seasoned voices working together. This is precisely the opportunity that FIRST provides for us to capitalize upon.

ECG Robotics team, Team 1533 – Triple Strange, based at the Early College at Guilford, will participate in FIRST Robotics for its eighth year in the 2012 Season. Our primary goal is to provide an opportunity for any student in Guilford County to participate successfully in the FIRST Robotics Competition (FRC) program. Our objectives are to provide a local community program for high-school students that:

1. Is a challenging program that develops real life leadership skills in problem solving, team building, creative design, and group decision making with a concentrated focus in math, science, technology and engineering
2. Positively impacts our community to excite younger students about STEM
3. Builds community partnerships between students, parents, mentors, and community sponsors, both large and small businesses, and educational institutions.

We seek increased interest in science and technology along with dedication to their studies among the students involved. We see enthusiasm when they share what they learned with other students, and its impact in the choices alumni make for college (all of last year's 7 graduates are studying science or engineering at 4 year institutions).

Success for our team is defined by our learning experiences and the knowledge we gain from problem solving, creating designs, working as a team, learning to make decisions as a group, developing and continuously fostering relationships with our sponsors and mentors, reaching out to our community and sharing our excitement about science and technology.

More specifically, success for us in 2012 will be to compete with gracious professionalism, and for our team to continue building a future where FIRST is present in all aspects of our local community.

2. How many students do you anticipate participating in this program?

Our team expects to have approximately 30 - 40 students from 6 - 8 high schools from Guilford County. For the 2011 season we had 32 high-school members who were members of Team 1533. This included 25 males and 7 females.

How many teachers do you anticipate actively participating in this with your team?

Our principal is our faculty advisor and actively participates with Team 1533. The Early College at Guilford High School, our host school, has 8 teachers, 1 guidance counselor, 1 administrative staff, and our principal. All 8 of our teachers are engaged in supporting 22 other student led clubs and have difficulty finding time to actively support us. Parent and community mentors provide the adult leadership for Team 1533.

How many corporate/community mentors will participate in this with your team?

We expect to have about 25 corporate and community mentors participating with our team. This includes many parent technical and non-technical mentors. Our mentors share their experiences from working with small and large businesses, universities, government and non-profit organizational perspectives.

Please address the following issues:

- A. Explain the relationship you envision among your students, faculty, and community partners as part of this year's *FIRST* Robotics Competition experience, i.e., how your team will be organized to facilitate interaction among these groups.
- B. Describe how you envision these groups working together and benefiting from their involvement with *FIRST* Robotics Competition.

Our team expects to have approximately 30 - 40 students from 6 - 8 high schools from Guilford County. Our principal is our faculty advisor and actively participates with Team 1533. The Early College at Guilford High School, our host school, has 8 teachers, 1 guidance counselor, 1 administrative staff, and our principal. All 8 of our teachers are engaged in supporting 22 other student led clubs and have difficulty finding time to actively support us. Our 25 parent and community mentors provide the adult leadership for Team 1533 and share their experiences from working with small and large businesses, learning institutions, government and non-profits.

Team 1533 envisions a gracious, professional relationship amongst our students, faculty, and community partners. Team mentors are engineers, business people, and parents

who work closely to help the students move forward with their task. Major team decisions and interactions are evaluated as to whether they meet this standard of conduct. Thus, the climate is of working well together to learn, to meet a challenge, and to work productively as a team.

Leadership of the team is through five (5) student-elected club officers: President, Outreach Coordinator, Project Manager, Treasurer, and Secretary. The president's job is much as any president's job. The outreach coordinator's focus is reaching out to local community resources and partners. The project manager is our student level coordinator for the activities to keep our club involved and focused, particularly during the build season. The treasurer works with our adult finance mentor on grant requests, assists with budget management, and plans fundraising activities. Our secretary's job is essentially to promote effective communication.

The team is the students. The students brainstorm, design, build, program, test, and compete with their robot at the competition. And so, the team is organized into student led departments, each having specific responsibilities. The assorted departments reflect a real life organization with mechanical, electrical, programming; animation and webpage, strategy, marketing, outreach and safety departments. Each of our student departments has a student director and an adult mentor working directly with the students. Facilitation and communication between the departments, particularly during build season is by the student Project Manager, who coordinates and motivates. It is this position's job to distribute daily updates and generally keep the team on task and on target.

Our emphasis is on a student lead team with strong support from adult mentors and local community partners. FIRST Robotics gets our students excited about engineering and technology. The students participate in the complete engineering experience up close and personal. They get their hands and minds totally involved in problem solving, creative design, teamwork, group decision making, etc., in a fun environment that creates partnerships and mentor relationships with students and adults involved in science and technology. FIRST's vision of building future leaders through the use of an engineering game is a great model for the inspiration and recognition of science. It is evident that our students really love this kind of game challenge because they self-motivate to compete.

3. *FIRST Robotics Competitions provide high school students with many unique opportunities, but because of the nature of the competition, as well as the travel that can be involved, participation in FIRST Robotics Competition can require significant financial resources. In addition to the entrance fees, teams must budget for robot prototyping and construction, travel to one or more events, and miscellaneous items like team t-shirts. Please outline your anticipated budget (expenses) and how you plan to fund your team's participation (income) this year. Please do not use a table format. Instead, please use paragraph format.*

Team 1533's budget for 2011-2012 is almost \$40,000 and includes: Admin Expenses (Insurance & Supplies) \$600, Awards Banquet & Recognition \$400, Competition Costs

(Registration Pittsburgh and NC Regional) \$9000, Competition Travel \$12,000, Marketing (T-Shirts, printing, team spirit) \$1500, Outreach (started 11 JR FLL Teams this year) \$1600, Robot Development (Robot parts, field expenses, tools, supplies) \$6800, and Build Facility Lease \$7500.

Our host school, The Early College at Guilford High School (ECG) located on Guilford College campus, does not have an “on-campus workspace” for the actual building of the robot. ECG has 2 modular buildings with 8 classrooms total. Guilford College also does not have any space to offer our team. Over the last 8 years, our team has built robots at NC A&T, one of our sponsor’s facility located in Browns Summit (a 30 – 60 minute commute each way for students), at a local Moose Lodge, and in a parent’s warehouse that has since been sold.

In October 2010, we made the financial commitment of just over \$7500 for a year (\$600/month plus utilities) and leased a 1700 square foot open room in a business park, 5 minutes from the Early College at Guilford and centrally located in Guilford County. This has greatly enabled our team to meet at times conducive to student schedules, made this experience more accessible for students, and provided the opportunity for students to meet weekly throughout the summer and fall. For the first time in our 8 year history, students met continuously over the summer and spent their time designing and building a demonstration robot. Additionally, Team 1533 hosts FTC Team 731 – Wannabee Strange which also meets at our build space. We welcome other teams to share our space, and have previously held mechanical engineering and CAD training with other Guilford County robotics teams at our facility and mentored 3 other FTC teams at our facility.

Students are responsible for a portion of these costs, specifically travel costs, through member dues and Team Fundraisers such as selling FIRST - 7 Watt LED Light Bulbs and concessions at the FLL Tournament in Winston-Salem.

Budgeted Income includes:

\$27,000 – Grants and Donations

\$1500 – Member Dues

\$11,500 – Fundraising and Member Trip Fees

It is important that we make this activity accessible to all students, and so we seek sponsors to underwrite much of this cost.

4. Please identify the corporate or community partners/mentors who will assist and instruct the

students in fabrication, mechanical and electrical concepts, computer programming and control, and computer aided design and animation. How will they enable your students to be successful in this project?

Our mentors represent a variety of community partners, corporations, and organizations and share their experiences from working with small and large businesses, universities, government and non-profits. Our mentors come from ABCO Automation, Maccord Mason, RFMD, Wake Forest University Health Science, IBM, Energizer, Thomas Built Buses, Machine Solutions, non-profit administrators, UNC-Greensboro, NC A&T, retired military, and The Early College at Guilford. We have several mentors who have been with our team for eight years. Our mentors enable our students' success in this FIRST project by bringing their experience, patience, and willingness to share their time and passion for science and technology.

5. Please describe how participation in the FIRST Robotics Competition will provide an inspirational experience for the participating students, how they will be encouraged to consider science-, technology- or engineering-related careers, and how participation will contribute to your school's overall educational goals.

The Early College at Guilford (ECG), our host high school, has 200 students enrolled, 50 in each year group of freshmen through seniors. ECG is a public high school that provides an academic accelerated curriculum. We have a staff of 8 teachers that instruct classes with the 9th and 10th graders. Our 11th and 12th graders are enrolled as full-time students at Guilford College.

Our school supports 23 student clubs, all having faculty or staff sponsorship. The mission of The Early College at Guilford is to make a positive difference in the lives of students by providing exceptionally challenging educational opportunities that support academic development at the highest standards. Through building bridges at the earliest opportunity between high school, college, and beyond, our school seeks to awaken and mature the creative, social, and academic abilities of students. We strive to foster multi-dimensional leadership in varied contexts so that our students may succeed in higher education and the changing world beyond.

FIRST integrates into ECG's overall educational goals by providing an additional challenging program that develops real life leadership skills in problem solving, team building, creative design, and group decision making with a concentrated focus in math, science, technology and engineering. The knowledge and skills students gain from participating in the FIRST program directly contribute to their abilities to meet, and most often exceed, our local and national standards in math, science and technology.

One specific requirement of our school is that every student complete 160 hours of community service throughout 11th and 12th grade, with 50 hours dedicated to one specific organization or cause. This year, for the first time, Team 1533 students are coordinating a year-long LEGO Enrichment Program with two local elementary schools. Our students recruited 22 high school students, both FRC and non-FRC Team members, to volunteer 2 hours each week for the entire year, leading 11 groups of five to seven 3rd – 5th graders in the FIRST Jr FLL challenges. This group of students will ultimately volunteer over 1200 hours just with this activity alone. The high school students start each session by helping the elementary students with their homework for 30 minutes, and then lead their groups for the LEGO enrichment activities. The activity fulfills the students' service learning requirement, a critical element of their high school curriculum requirements, and allows them to share their passions for science and math fields.

Team 1533 also engages in many additional educational and community service outreach activities. Annually, the team takes the robot to several schools and community events to share their experiences. Additionally, team members each year collectively volunteer over 200 hours to mentor middle school level FIRST Lego League (FLL) robotics teams and support FLL local competition events. This team is committed and enthusiastic about sharing their excitement of science, technology, engineering and math.

6. Access to adequate woodworking, metalworking, welding, and other facilities are important in the robot fabrication process. Some teams have these capabilities available at their school, while others take advantage of tools and machine shops provided by their corporate partners. What facilities are available for your team's use in this year's program?

Woodworking Metalworking Welding Software Development

We have adult mentors/parent volunteers who assist the students with woodworking, metalworking and software development. Any welding necessary will be done by a local machine shop that has graciously offered to help by doing the actual work [to assure safety], however, interested students can observe.

Schools participating in *FIRST* receive the latest version of Autodesk's AutoCAD-based drafting product for computer aided design/ drafting and 3D Studio MAX for 3D simulation and animation.

| | | |
|---------------------------------------|-----|----|
| Do you possess CAD software? | Yes | No |
| Is CAD software mentorship available? | Yes | No |

Please describe the facilities that will be used by your team to design, prototype, and build your robot.

Team 1533 has access to all of the listed types of shops and software development. Our build

facility has donated computers, a drill press and handheld tools for student use. Several of our community partners including Machine Solutions, Thomas Built Buses, and ABCO Automation provide access to woodworking, metal working and welding, as well as several engineers and technical personnel who volunteer their time to mentor our team members. Additionally, we have started a conversation with the Division Chair for the ICET (Industrial, Construction, Engineering Technologies) Division at Guilford Technical Community College in the hopes of establishing a partnership with enabling student access to machines.

7. Another critical element for the success of a *FIRST* Robotics Competition program within a school is the enthusiastic support of the school or group's administration.

Do you have support from your senior-level administration, e.g., principal or superintendent? Yes No

If yes, please describe.

Team 1533's school Principal is our faculty advisor and interacts closely with our student leaders and adult leaders to provide curriculum, administrative, logistical and mentorship support. Team 1533 activities are published in our school newsletter. The Principal secures space at the college for Team activities, to include student and adult volunteer meetings, recruiting events, and robot demonstrations. No space is provided for the actual building and development of the robot. Our school staff provides administrative support by conducting criminal background checks on all adult volunteers. The Principal facilitates logistics with underclassmen teachers and the college professors to manage missed classes for students to attend competitions. Most importantly, our Principal attends our events. Our Principal whole-heartedly supports our FIRST Robotics Club which has both an FTC team and an FRC team.

- 7a. As explained in the directions your school administration (principal, assistant principal or equivalent) MUST send a letter endorsing the team's desire to apply for funding, confirming the educational sponsor's commitment to the team, and agreeing to the conditions of sponsorship. This must be sent in electronic form as an email or scanned copy of a letter to ARC-FRC-Regs@mail.nasa.gov, must originate from the official email account of the educational sponsor (Principal, Assistant Principal or equivalent), and must include your *FIRST* Robotics Competition team number and the name of your school IN THE SUBJECT LINE. If you have questions about this requirement, please contact us at ARC-FRC-Grants@mail.nasa.gov. We must receive the email no later than Thursday, December 1, 2012, 23:59:59 PST. Failure to submit such a letter will result in your application not being considered for funding. By proceeding, you acknowledge that you understand this requirement and that the email from your school administration has already been sent or that it will be sent in time to be received by the deadline. There will be NO EXTENSIONS.

8. **Second-Year teams only. Rookie and Veteran teams skip to question 11.**

If you are applying for a second year of funding, you must be willing to mentor a rookie team. If you are not yet mentoring a team, one may be assigned to you. Please describe how you are planning to mentor a rookie team (via telephone or e-mail conversations, personal visits, demonstrations,

etc.)? NOTE: If you selected "Rookie" or "Veteran" as your team status (very first question), do not enter data into this field as it will not be saved.

Are you already mentoring or have you made arrangements to mentor a rookie team? Yes No

9. **Second-Year teams only. Rookie and Veteran teams skip to question 11.**

If you are applying for a second year of funding you must also demonstrate at least \$5,000 in existing school, community or corporate sponsorship. Please list below the school/organization/company name, amount of sponsorship, point of contact at the school/organization/company, and office contact telephone number so that the reviewers may verify this support.

NOTE: If you selected "Rookie" or "Veteran" as your team status (very first question), do not enter data into this field as it will not be saved.

Have you already secured the required school, community or corporate sponsorship? Yes No

10. **Second-Year teams only. Rookie and Veteran teams skip to question 11.**

Have you incorporated robotics activities into your classroom or other classes at your school? NOTE: If you selected "Rookie" or "Veteran" as your team status (very first question), do not enter data into this field as it will not be saved.

If yes, please describe.

11. Please describe what will set your team apart from other teams competing in this year's *FIRST* Robotics Competition. What makes you unique? If there are any other considerations that you would like to share with the review panel, you may do so here as well.

Team 1533 – "Triple Strange" 2011 – 2012 is the eighth year that Early College at Guilford Robotics team will participate in FIRST Robotics. Our team expects to have approximately 30-40 students from 6-8 high schools (including home school students), based at the Early College at Guilford.

Although not readily apparent, a truly unique part of our program when compared to other teams is that the school we are affiliated with has only 200 students. And yet, our club enrolls almost 15% of the whole student body. The students self-select into the club and are there because of their desire to work in science fields. As a second note of distinction, our school does not have any "on-campus workspace" or resources available for the actual building of the robot. We do get strong support and encouragement from our school. As such, we are completely dependent on our parents and community partners to mentor all the engineering aspects of building and testing our robot.

Additionally, Team 1533 involves every team member during the competitions. While many are working hard with the required tasks of the competition, everyone else is tasked with marketing our robot, learning about all the other teams and their robots, and collecting specific data that demands strict focus during every match. Team 1533, compiles our data, does statistical analysis and shares our results with teams at the competition. Our information is very useful for team analysis during the alliance selection process preceding the final rounds of competition.

Our team is proud of the recognition we've received to include the Regional Judges Award (2009 & 2007, 2006) and the Regional Engineering Inspiration Award (2008). Our awards have recognized not just Team 1533's strength in building a robot, but our community service and outreach efforts to encourage youth interest in science and technology. In the past years, with the tremendous help of

community sponsors, our team helped start twenty-five new FIRST teams: 14 Jr. FLL, 3 FLL, 5 FTC and 3 FRC teams. Each year, we mentor JFLL, FLL and FTC teams, and 11 of the Jr. FLL teams we started this fall.

During the past two years, Team 1533 has promoted FIRST Robotics in our community and supported NC's state level FIRST events. In the summer of 2010, Team 1533 led a combined effort with our two other local FRC Teams and submitted a joint proposal to the Greensboro Natural Science Center to establish a Youth Robotics Center. The proposal was not accepted, but it did start the conversation for something that has future potential. In the fall of 2010, we had students and parents volunteer at the NC FIRST FRC Fall Training by providing instruction to many attendees. At the Jan 2011 NC FIRST Kick-off, we helped pack-up the event and one of our mentor and alumni student built half of the field for Teams to see. Additionally, students and a mentor prepped electrical wires and provided tools and supplies for the Rookie Chassis Build. We had student and mentor volunteers at the Apr 2011 NC Regional and also at the post-season scrimmage. Our Mechanical and Safety Mentor won the NC Regional Woodie Flowers award, and he is an inspiration to all of us. Currently, we have volunteer plans to support the local Greensboro and Winston Salem Fall 2011 FLL Regional tournaments, the local FTC Aggieland Championship in February 2012, the 2012 FRC Kickoff, and the 2012 NC Regional Competition.

Additionally, Team 1533 started a new tradition last year by inviting parents, sponsors and our community partners to our first-ever Bag-and-Tag Event allowing us to demonstrate our robot before it's packed up for competition. The event was a big success that we intend to do it again this year. Then, at the end of the season, we take great pride in sharing our yearly adventure with our community at our team banquet. We do this by inviting our team members, parents, mentors, our principal, sponsors, local politicians and education professionals to include our mayor, school board members, superintendents, school principals of our team members and our NC FIRST Regional Director, and we celebrate family pot-luck style.

Last year was the first year Team 1533 attended two regional competitions, the Pittsburgh and North Carolina Regional Tournaments. Pittsburgh was the nearest competition (7.5 hour drive) during a majority of our students' spring break, and hence half of our students were able to attend and not miss classes. The NC Regional, our local tournament, requires most of our students to miss class/school or miss a good portion of the Thursday and Friday competition events. Almost 75% of our team made it to the NC Regional Competition on Friday evening, missing out on much of the competition experience to include problem solving, strategizing, networking with other teams, and the interacting with the incredible mentors and professionals that volunteer at the tournament. Because of the diversity of our student population with representation from so many schools with different schedules, we discovered in the 2011 season that registering and attending two tournaments provides at least one FRC Competition experience for each of our students and greatly enhances the FIRST experience. This is something that we will continue again this year in order to ensure every student makes

it to at least one FIRST tournament.

Team 1533's experience at the Pittsburgh competition was what this program is all about. Our practice field we constructed was different enough from the competition field that our Robot was unable to get close enough to hang logos on the pegs. All day Thursday and most of Friday, our students had to completely revamp their design to have a robot that could compete. Watching the students' teamwork, interactions, perseverance, and problem solving skills all come together was amazing. The students finished well enough in the preliminary rounds to be selected as an Alliance partner and relished what they had accomplished. Team 1533 found the level of competition at the Pittsburgh tournament to be technically more challenging, possibly because of the larger amount of more established veteran FRC Teams. We feel strongly that our participation in the 2011 Pittsburgh competition raised our experience level and we were thus able to raise the technical level of the competition at the 2011 NC Regional competition. We have hopes to do this again for the 2012 season, competing in Pittsburgh in early March and NC in April. We also look forward to sharing our Team 1533 experiences with newer FRC Teams at the NC tournament.

Team 1533 is uncertain at this time about attending the 2012 FIRST Championship in St Louis for two reasons, cost and schedule. The tournament dates of 25 – 28 April conflict with more than 50% of our team members who are 11th and 12th grade high school students enrolled as full time college students. Their final exams are scheduled 25 April to 2 May. If Team 1533 qualifies to attend the championship, if our students can arrange with their instructors alternate testing, and if we have financial support for this event, Team 1533 will attend the tournament.

This program is a true reflection of a school – parent – community partnership in working with future leaders through a real-time game and exercise. It is a great challenge and a great sense of accomplishment with every build season we complete. Because of our unique position, we are constantly fundraising to accommodate the needs of our team. A grant from NASA would be a significant contribution to developing future leaders here in Greensboro, NC and inspiring the local community to their continued support of a great educational endeavor. Support from NASA will directly impact many more than just Team 1533 members, it will help support STEM learning experiences for the entire community that we interact with through all our outreach efforts.

Questions 12 through 15 are for Sustaining Grant applicants only. NOTE: If you selected "rookie" as your team status (very first question), do not enter data into this field as it will not be saved.

As noted in the instructions, the purpose of the Sustaining Grants is to provide short-term funding to

assist those teams at risk of folding due to the loss or significant reduction in support by one or more primary sponsors. These grants are need-based, and will be issued to the teams determined to be most at risk. To evaluate your application for a Sustaining Grant, we need to understand which sponsors have reduced/eliminated their support, how this has affected your ability to continue the team, and how you plan to recover sponsorship from other sources before the next competition season. To assist us in this effort, please provide the following additional information (in questions 12 through 15):

12. Please identify the source and type/amount of primary sponsorship upon which your team has relied, and which will not be available to you for the 2012 season. Where possible, please include a point of contact / contact information for your previous sponsor.

The list below is names of corporations and foundations from which we are requesting funds, with dollar amounts, indicating which sources are committed, pending or we will submit a grant request.

Committed: \$5900 (Teradata - \$2500, RFMD - \$2000, Early College At Guilford PTSA - \$900, FIRST Robotics - \$500)

Pending – Awaiting Decision: \$18,500

Analog Devices - \$3000 – Uncertain – Requested \$2000 for 2011 season, but did not receive. Requested \$3000 this year. Submitted Aug 2011 - POC Debbie Gibson - debbie.gibson@analog.com

TE Connectivity Foundation - \$4500 – Received \$3000 for 2011 season. Awaiting decision for this grant. – Expected Nov/Dec. POC: Mary Rakoczy - mjrakocz@tycoelectronics.com

IBM - \$1000 – Uncertain – First time request.

Lowes Toolbox for Education - \$2000 – Uncertain, first time request. Results planned to be released Jan 2012. Asked for funding to purchase field supplies for NC Regional Kick-off. We volunteered to build the field for the kick-off, and if we receive this grant, plan to share extra field element resources with other FRC Teams. POC: No name available - www.toolboxforeducation.com - Call us at 1-800-644-3561 x 208 or email us at info@toolboxforeducation.com

Tannenbaum-Sternberger Foundation - \$4000 – First time submitting a grant request to this local grant making organization. We helped submit a coordinated grant request with all 3 Guilford County FRC Teams. Board meets Nov, expect decision in Dec. POC: Joretta Klepfer - joretta@tsfoundation.com or Mr. Robert Klepfer.

To be Submitted: \$10,750

Time Warner – Connect a Million Minds - \$2000 – Received \$1000 last year.

Greensboro Teen Grant Making Council - \$750 – Sponsor for 4 consecutive years

General Dynamics – \$1000 – Sponsor for 2 consecutive years @ \$1000/yr – asked to request funds in Jan 2012

ABCO - \$1000 – In-kind sponsor for many years, unable to donate financially, will request financial support again this year, several mentors support our team. POC: Brad Kemmerer, President, bradk@goabco.com

Thomas Built Buses - \$1000 – First time request to be submitted this year, unsure if able to donate financially

NASA - \$5000 (Received NASA Funding 2 yrs ago to attend the 2010 Inaugural NC Regional Competition)

Requests Not Funded: \$5000

Best Buy - \$5000 – grant submitted prior to 1 Aug 2011 and not funded. Contact Info: Go to www.easymatch.com/bestbuygrant or contact bestbuygrant@easymatch.com or 866-625-4350.

Fundraising, member dues and trip fees, are our sources for meeting the shortfall. Funding from NASA for our Registration Fee would help us ensure we continue to provide this program to our local youth.

We do not have one primary sponsor for our Team. Team 1533 continuously seeks new sponsors in our community. We maintain community interest through presentations, media coverage, and positive interactions with all of our sponsors.

- 12a. Each team applying for a Sustaining Grant must submit a letter from the school administration (principal, assistant principal or equivalent) certifying the reduction/loss of primary sponsorship for the team (including the source and amount of the previous sponsorship). This must be sent in electronic form as an email or scanned copy of a letter to ARC-FRC-Regs@mail.nasa.gov, must originate from the official email account of the educational sponsor (Principal, Assistant Principal or equivalent), and must include your *FIRST* Robotics Competition team number and the name of your school IN THE SUBJECT LINE. If you have questions about this requirement, please contact us at ARC-FRC-Grants@mail.nasa.gov. We must receive the email no later than Thursday, December 1, 2012, 23:59:59 PST. Failure to submit such a letter will result in your application not being considered for funding. By proceeding, you acknowledge that you understand this requirement and that the email from your school administration has already been sent or that it will be sent in time to be received by the deadline. There will be NO EXTENSIONS.
13. Please explain the circumstances surrounding the reduction / loss of your cooperate sponsorship (e.g. why is the organization that previously sponsored your team not able to do so this year?).

Over the years, our financial sponsors have changed. We have some sponsors that are able to fund us each year for a consistent amount, some that contribute only once for a specific purpose, and others that no longer provide support for a variety of reasons. RFMD, TE Connectivity, Teradata, General Dynamics, Early College At Guilford PTSA, and the Teen Grant Making Foundation (and In-kind support from ABCO) have provided us funding for two or more consecutive years. Previous sponsors that are unable to support us include Duke Energy (we no longer meet their criteria for submitting grants), Dell (closed their plant in NC two years ago and can't support us), and NC A&T (had generously funded \$5000 of our team's travel expenses for two years prior to 2010 but no longer can do this because of educational budget restrictions). Several companies we approached for financial support for the 2011 competition season were unable to support us with direct donations for various reasons, mostly hard economic times, and asked us to continue to ask them in the future when they may be able to support us with direct donations or in-kind support. These include ABCO, Honda Jet, Thomas Built Buses, TruFlo, Legacy Paddle Sports, and Analog. Our request to BestBuy this year for \$5000 was denied.

14. In essay Question 3 you provided a description of the team budget for the 2012 season. Please detail your team budget from the 2011 season, and describe the reductions/cuts to the team activities that have resulted from the reduced / lost sponsorship.

Team 1533's expenses for 2010-2011 was \$37,850 and included: Admin Expenses (Insurance, Incorporating and 501(c)(3) fees & Supplies) \$1,100, Fundraising Expense (LED Bulb purchases) \$2300, Awards Banquet & Recognition \$350, Competition Costs (Registration Pittsburgh and NC Regional) \$9000, Competition Travel \$10,300, Marketing (T-Shirts, printing, team spirit) \$1600, Robot Development (Robot parts, field expenses, tools, supplies) \$6100, and Build Facility Lease Costs \$7100.

We will know by the end of December 2011 what our funding level will be for the 2011-2012 season and will adjust accordingly. The easiest way to stay within budget will be to attend only one competition. If this is the case, we would most likely only attend the North Carolina Regional Competition, as its closer and hence travel costs would be significantly less. However, our Team learned so much and shared so much more at the North Carolina Regional last year because we attended the Pittsburgh Regional and allowed every student to have an experience at competition. Cuts can and will be made throughout our budget, but all to the detriment of the FIRST experience.

The second biggest cut would be to forego the lease on our build facility. This would save \$7500, but would literally put us back to a team experience that lasts only 3 months and the stress of trying to find a build facility, moving all the team gear and supplies, finding storage,

and trying to find a location accessible for our geographically dispersed students, would probably end the team. This coordination would be an incredible drain on parents and mentors time, time that is much better spent mentoring students instead of looking for a temporary team home.

Last year we purchased an additional CRIOs which enabled us to maintain our demonstration robot, build a prototype and the actual robot. We won't have this expense this year. We think we operate on a tight budget and do a lot to keep our costs low. Our Team banquet is pot-luck for \$350, facility rental, supplies, ie. cups/plates/utensils, etc. ,and recognition for thanking our sponsors and mentors with a team photo.

Additionally, we've invited and hosted several other FIRST teams at our build facility to include 3 FTC Teams and 1 FRC Team. We mentored 2 new FTC Teams last year, and shared our FRC Field Elements with another local FRC Team. Without our build facility, this networking and sharing of ideas and information with other teams would be much more difficult. Additionally, we had the opportunity to host community, education and business leaders from Winston-Salem at our build facility for them to gather insight into their planning process to set-up a much larger technology center for their school district.

15. [Please give a detailed description of how your team plans to recover from the reduction / loss of their corporate sponsorship.](#)

Team 1533 does not have one primary sponsor for our Team, and we never really have. Each year securing funding for Team 1533's FIRST experience is difficult. We have several sponsors that support us each year and we are extremely grateful for their generosity and commitment. We have \$9500 from 6 different sponsors that we know we can rely on each year; Teradata, RFMD, ECG PTSA, TE Connectivity, General Dynamics, and the Greensboro Teen Grant Making Council. Our \$7500 build facility lease cost is significant. Additionally, this year we invested \$1500 in our outreach effort of starting 11 Jr FLL Teams. Each year Team 1533 continuously seeks new sponsors in our community and works to enhance our partnerships with our newer sponsors. We maintain community interest through presentations and media coverage. We continue to attend tech related events to demonstrate our earlier robots. We continue to seek fundraising opportunities.